Krayenberggemeinde/Kassel (Germany), May 6, 2025

Korn-KALI® with potassium, magnesium, and sulfur improves nitrogen efficiency

Efficient nitrogen uptake is essential for successful arable farming. Potassium, magnesium, and sulfur play a key role in this process. The combination of these nutrients in Korn-KALI improves nitrogen efficiency and, therefore, ensures the best possible yields.

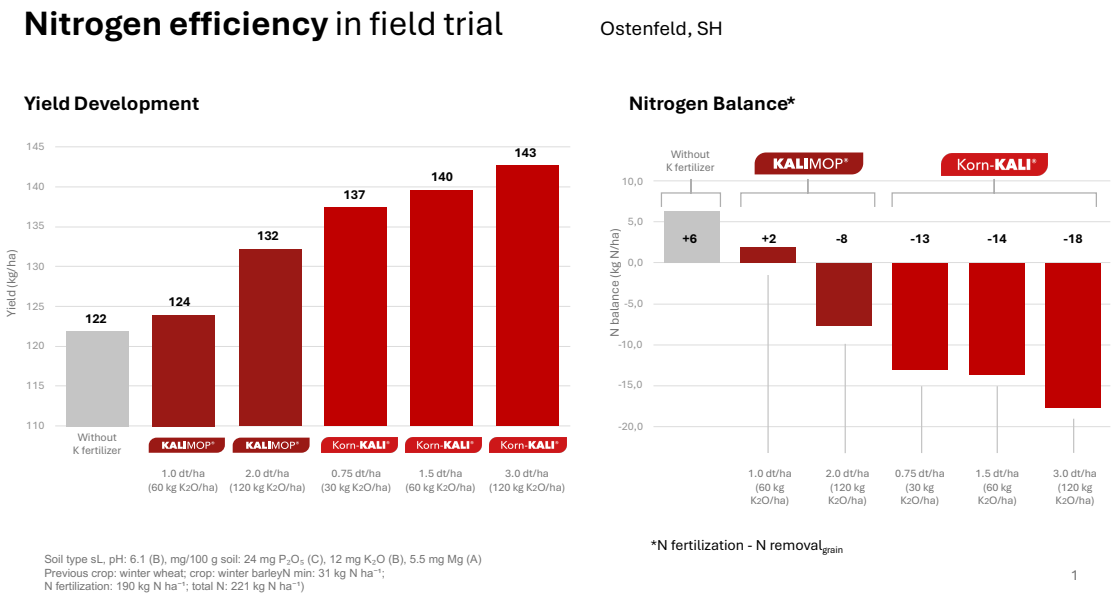
“Plants can only reach their full yield and quality potential if they are supplied with the proper nutrients and are able to absorb them,” says Prof. Dr. Jóska Gerendás, Head of Agronomy & Advisory at K+S. “Potassium, magnesium, and sulfur significantly contribute to efficient nutrient uptake, especially in the case of strictly regulated nitrogen.” Legal requirements for the application rate and timing of nitrogen make efficient uptake an important factor for achieving optimal growth and good protein formation in arable crops. In this context, agronomic nutrient efficiency is defined as the amount of yield achieved per kilogram of nutrient applied.

A powerful combination of the nutrients potassium, magnesium, and sulfur is key to achieving the best possible nitrogen uptake. Potassium and magnesium work together to improve photosynthesis and the transfer of assimilates from the leaves to yield-forming organs and roots. They both promote root growth, which enables optimal nitrogen uptake from the soil. Sulfur is essential for protein synthesis. A sulfur deficiency reduces the plant's nitrogen utilization and inhibits further uptake.

The field trial in Ostenfeld, Schleswig-Holstein (see image), with winter barley, demonstrates that potassium chloride fertilization (KALIMOP) significantly increases yield (left image). Maximum yields, however, can only be achieved by applying magnesium and sulfate-sulfur (in the form of Kieserite in Korn-KALI) immediately in addition to potassium.

The reason for the increased yield is evident in the nitrogen balance in the image on the right. The calculated nitrogen (N) balance clearly illustrates the plant's optimal nutrient uptake and utilization after the application of potassium, magnesium, and sulfur. More nitrogen was absorbed and converted into yield. This improved nitrogen (N) uptake ultimately leads to a significant reduction in the N balance and, therefore, lower Nmin values after harvest. This nutrient combination ensures high-quality products and high yields.

Professor Jóska Gerendás recommends the application of Korn-KALI, a fertilizer containing potassium, magnesium, and sulfur. This multi-nutrient fertilizer consists of natural minerals that are immediately available to plants. With 38% K_2O, 6% MgO, and 12% SO_3, Korn-KALI guarantees an immediate supply of three essential macronutrients in a single fertilizer grain. This enables uncomplicated and effective fertilization that improves nitrogen efficiency.



Note

Photos, graphics, and logos are available at #allset www.kpluss.com/allset in the downloads section.

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